REMARKS

In accordance with the foregoing, claims 1, 12, 13, 14, and 15 have been amended for clarification, new claim 16 has been added and, thus, claims 1-16 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 103 (a):

In the final Office Action, claims 1-15 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,995,254 ("Koga") in view of U.S. Patent No. 6,404,525 ("Shimomura") and U.S. Patent No. ("Fassih-Nia"). The rejection is traversed and reconsideration is respectfully requested.

Koga discusses a wavelength division multiplexing light transmitting system comprising a plurality of couplers via which light signals with different wavelengths are *combined* in order to improve the signal noise ratio of the monitor signal. The Koga system uses couplers that couple the input, including signals of different wavelengths, to each of the coupler outputs.

Shimomura discusses an Optical Add-Drop Multiplexer ("OADM") capable of switching a transmission line of a wavelength-multiplexed optical signal without electrically terminating the optical signal and an optical signal monitor utilizing OADM.

Fassih-Nia relates to an optical communication system, which continues uninterrupted communication between various elements of an industrial control system even in the event of a failure in the fiber optic lines.

The Office Action correctly states that Koga fails to explicitly suggest or teach, a monitoring unit that monitors a fault or a location of said fault. Accordingly, the Office Action relied upon Shimomura and Fassih-Nia as providing a monitoring unit, location of fault, and a timer for managing a control unit at given intervals to make the rejection. Fig. 2 of Koga and corresponding descriptions as provided in column 3, lines 36-50, discloses coupling units 7,13, and 14 that multiplex lights having different wavelength ($\lambda 1$ and $\lambda 2$). However, according to the present invention, the first and second optical dividing units demultiplex first and second coupled signal, respectively. See Fig. 2, page 12 lines 8-15, page 13 lines 14-22 of the present invention. Accordingly, the first and second dividing units split the coupled optical signals $\lambda 1+\lambda 2$ and transmit the separated signals, $\lambda 1$ and $\lambda 2$. This allows the $\lambda 2$ signal alone to be returned to

the source whereas in Koga because devices 13 and 14 are couplers, both λ1 and λ2 signals are returned to the source.

Further, in the present invention, first and second coupling units couple optical signal lights having different wavelengths (λ1 and λ2). However, in Koga, coupler 7 multiplexes λ1 and λ2, and the coupled signal is then transmitted to coupler 14. Accordingly, coupler 14 of Koga receives the already multiplexed signal. Similarly, coupler 13 of Koga receives the previously multiplexed signal. In contrast, the first and second coupling units of the present invention initially receive two optical signals having different wavelengths (λ1, λ2), and then multiplex the two signals to produce a multiplexed optical signal with a wavelength of λ1 + λ2.

In considering claim 2, the Examiner states that Koga discloses a first and second coupling unit, a first and second dividing unit formed of passive elements. The dividing units in the present invention separate and divide λ1 + λ2 into up and down data signal λ1, and examination signal λ2. Therefore, the dividing units of the present invention are distinguishable over Koga's coupling units formed of passive elements. The coupling units in Koga combine the two signals with different wavelength, while the present invention's dividing units demultiplex the two signals. And, in the present invention, the passive element formation is directed to these distinct dividing units.

In considering claim 4, 7, and 8, the Examiner points to Shimomura. Shimomura discusses an Optical Add Drop Multiplexer comprising an optical signal fault monitor means having functions of monitoring an optical signal cut-off fault by detecting the optical loss of signal, detecting the optical loss of wavelength, and detecting the optical signal degrade. See Shimomura column 5 though 6, lines 29 – 63. Alternatively, the present invention can distinctively determine whether a fault has occurred in the in-house apparatus or in the optical fiber transmission lines, without the need to go to check the power state of the in-house apparatus. As illustrated in Fig. 9 and the corresponding descriptions provided in page 18, lines 25-36 of the present invention, the transmission line monitoring apparatus distinguishes between synchronous error, which shows a transmission line abnormality, and a data error, which shows a transmission line state.

The burden of establishing a prima facie case of obviousness based upon the prior art lies with the Examiner. In re Fritch, 23 U.S.P.Q. 2d 1780, 1783 (Fed. Cir. 1992). According to In re Fritch, the Examiner "... can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead

that individual to combine the relevant teachings of the references." Further, "rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention." In re Rouffet, 149 F.3d 1350, 47 U.S.P.Q.2d 1453, 1457 (Fed. Cir. 1998).

However, in the final Office Action, the Examiner fails to show that the teachings of Koga or Shimomura provide some objective teaching that would lead one to combine the relevant teachings of the references. Accordingly, independent claims 1,12,13,14, and 15 are allowable.

NEW CLAIM:

Further, it is respectfully submitted that new claim 16 is allowable over the prior art of record for the reason that neither Koga nor Shimomura teach or suggest "demultiplexing the coupled signal to divide and split the signal having the first wavelength from the examination signal having the second wavelength" where the examination signal having the second wavelength is returned to the source. While the present invention demultiplexes to separate the previously coupled signal $\lambda 1+\lambda 2$ and return $\lambda 2$ from the previously coupled signals, Koga maintains the coupled status of the coupled signals during their transmission from the transmitters to the receivers.

Therefore, neither Koga nor Shimomura teach or suggest each of the features of independent claims 1,12,13,14,15, and 16. Thus, withdrawal of the rejection is requested.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: 11/18/3

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CERTIFICATE UNDER 37 CFR 1.8(a)
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
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